

Notice of Allowability

Application No.

10/501,301

Examiner

Timothy C. Vanoy

Applicant(s)

MELLO ET AL.

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed on Mar. 20, 2007.
2. ☒ The allowed claim(s) is/are 1,2,4-9,11 and 14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date Mar. 20, 2007
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date Mar. 28, 2007
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Timothy C. Vanoy
Timothy C. Vanoy
Primary Examiner
Art Unit 1754

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to the applicants, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Gregory Bondarenko, applicants' attorney, on Mar. 28, 2007.

The application has been amended as follows:

Please cancel claim 10.

EXAMINER'S STATEMENT OF REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: Claim 1 and the claims dependent thereon have been allowed because none of the references of record teach or suggest the claimed method for producing crystalline nanoparticles using a continuous miniaturized reaction vessel, wherein the reaction vessel comprises at least one inlet, a reaction chamber and at least one outlet, comprising:

supplying a continuous reactant flow to the reaction chamber via the inlet;

controlling physical and chemical conditions in the reaction chamber so that reaction occurs to form crystalline nanoparticles of a pre-selected, defined dimension;
and

continuously extracting the formed crystalline nanoparticles from the reaction chamber via the outlet.

Claim 11 has been allowed because none of the references of record teach or suggest the claimed production device, comprising:

at least one inlet;

a reaction chamber that receives a reactant flow sufficient to form crystalline nanoparticles;

at least one outlet, and at least one of a temperature varying element that produces a temperature gradient across the reaction chamber so that the formed crystalline nanoparticles are of varying predetermined dimensions, an illumination element that produces an optical illumination intensity gradient across the reaction chamber so that the formed crystalline nanoparticles are of varying predetermined dimensions, and an inlet positioned to provide an off-center continuous reactant flow into the reaction chamber to produce a pH gradient and/or reactant concentration gradient across the reaction chamber so that the formed crystalline nanoparticles are of varying predetermined dimensions,

wherein the device is arranged to allow the continuous reactant flow into the reaction chamber and to allow a continuous flow of formed crystalline nanoparticles out the outlet.

Claim 14 has been allowed because none of the references of record teach or suggest the claimed nanoparticle production device comprising:

a reaction chamber;

a first inlet for supply of at least one reactant adapted to form a crystalline nanoparticulate product to the reaction chamber;

a first outlet for extraction of the crystalline nanoparticulate product from the reaction chamber;

a second outlet for extraction of unreacted or partially reacted reactant from the reaction chamber; and

a second inlet for recycling of the unreacted reactant or partially reacted reactant into the reaction chamber.

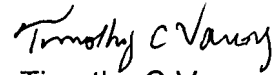
Any comments considered necessary by the applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy C. Vanoy whose telephone number is 571-272-8158. The examiner can normally be reached on Mon-Fri 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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